UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/558,438	03/19/2007	Koon-Seok Lee	7950.046.00-US	6134

30827 7590 07/07/2010

MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER	
MITCHELL, DANIEL D	
ART UNIT	PAPER NUMBER
2477	
MAIL DATE	DELIVERY MODE
07/07/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/558,438	LEE ET AL.	
	Examiner	Art Unit	
	DANIEL MITCHELL	2477	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 April 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *23-32* is/are pending in the application.

4a) Of the above claim(s) *1-22* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *23-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed on 4/14/2010 has been entered. No claims have been amended. Claims 1-22 are canceled. Claims 23-32 are still pending in this application, with claims 23 and 28 being independent.

Response to Arguments

2. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 23-26 and 28-31 rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (US Publication No. 2003/0053477 A1), hereinafter referred as Kim in view of Binding et al. (US Publication No. 2004/0184456 A1), hereinafter referred as Binding.

Regarding claim 23, Kim teaches an interface module **(communication module)** connected to a non-independent medium **(par. 53)**, the interface module comprising:

a processor **(par. 53 teaches a micro controller)** configured to perform network communication according to a predetermined protocol including a transmitting operation and a receiving operation **(par. 61 teaches receiving and transmitting operation)**; and

a serial interface **(par. 50 teaches an RS-232 serial interface)** configured to communicate with a device using a predetermined frame structure **(par. 65 teaches communication with packets)**;

receiving a second signal through the non-independent medium **(par. 68 teaches receiving a response signal)**;

interpreting, at the processor (client), a home code of the second signal **(par. 68 further teaches processing a response signal including a home code at a client device)**; and

transmitting the interpreted second signal to the device through the serial interface module using the predetermined frame structure **(par. 72 teaches broadcasting the signal including the home code; par. 50 teaches the interface is a serial RS-232 interface to the network)**.

However Kim does not expressly disclose transmitting operation comprises:

generating, at the network layer, a network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprises an address of the interface module, an destination address, and a kind of a packet based on importance; transmitting, from the network layer, the NPDU to the data link

layer; transmitting, from the data link layer, a frame including the NPDU to the physical layer; and transmitting, from the physical layer, a first signal made by the frame through the non-independent medium.

Binding teaches in par. 32 transmitting operation comprises: generating, at the network layer, a network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprises an address of the interface module, an destination address, and a kind of a packet based on importance **(par. 31, 32 a network layer generating a NPDU; par. 29 teaches the packets include headers and payloads; par. 6 teaches the header includes a source address (address interface module), destination address and par. 37 teaches a option field for designating a kind of packet)**; transmitting, from the network layer, the NPDU to the data link layer **(par. 31, 32 teaches transmitting a packet to the link layer)**; transmitting, from the data link layer, a frame including the NPDU to the physical layer **(par. 31, 32 teaches transmitting a packet to the physical layer)**; and transmitting, from the physical layer, a first signal made by the frame through the non-independent medium **(par. 31, 32 teaches transmitting the packet on the network).**

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Kim to include utilizing NPDUs. One would be motivated as such in order In order to prepare the network channel for communication by embedding signaling information within

the packet see par. 31.

Note: Since "the home code being used to solve problems relating to the use of the non-independent medium" is an indication of intended use and does not provide any difference between the claimed invention and prior art in order to patentably distinguish the claimed invention from the prior art capabilities, patentable weight is not given to the clause of the claim.

Regarding claim 24, Kim teaches wherein the device is at least one of a home appliance **(par. 42 teaches a home appliance).**

Regarding claim 25, Kim teaches wherein the network manager controls and monitors the home appliance **(par. 46 teaches a host node for controlling and monitoring a client node).**

Regarding claim 26, Kim teaches wherein the non-independent medium is comprises at least one of PLC (power line communication) **(par. 42 teaches PLC)**.

Regarding claim 28, Kim teaches a method for managing data communication, the method performed by an interface module **(communication module)**, the interface module comprising a processor **(par. 53 teaches a micro**

controller) configured to perform network communication according to a predetermined protocol comprising a serial interface **(par. 50 teaches an RS-232 serial interface)** configured to communicate with a device using a predetermined frame structure **(par. 65 teaches communication with packets)**, the method comprising:

performing a transmitting operation **(par. 61 teaches transmitting a packet)**, performing a receiving operation **(par. 61 teaches receiving and transmitting operation)**, wherein the receiving operation comprises: receiving a second signal through the non-independent medium **(par. 68 further teaches processing a response signal including a home code at a client device)**;

interpreting, at the processor, a home code of the second signal **(par. 68 further teaches processing a response signal including a home code at a client device)**; and

transmitting the interpreted second signal to the device through the serial interface module using the predetermined frame structure **(par. 72 teaches broadcasting the signal including the home code; par. 50 teaches the interface is a serial RS-232 interface to the network)**.

However Kim does not expressly disclose performing a transmitting operation, wherein the transmitting operation comprises: generating, at the network layer, an network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprising an address of the interface module, a destination address, and a kind of a packet based on importance;

transmitting, from the network layer, the NPDU to the data link layer; transmitting, from the data link layer, a frame including the NPDU to the physical layer; and transmitting, from the physical layer, a first signal made by the frame through the non-independent medium.

Binding teaches in par. 32 transmitting operation comprises: generating, at the network layer, a network layer protocol data unit (NPDU) including a NPDU header and a NPDU trailer, the NPDU comprises an address of the interface module, an destination address, and a kind of a packet based on importance **(par. 31, 32 a network layer generating a NPDU; par. 29 teaches the packets include headers and payloads; par. 6 teaches the header includes a source address (address interface module), destination address and par. 37 teaches a option field for designating a kind of packet)**; transmitting, from the network layer, the NPDU to the data link layer **(par. 31, 32 teaches transmitting a packet to the link layer)**; transmitting, from the data link layer, a frame including the NPDU to the physical layer **(par. 31, 32 teaches transmitting a packet to the physical layer)**; and transmitting, from the physical layer, a first signal made by the frame through the non-independent medium **(par. 31, 32 teaches transmitting the packet on the network).**

Note: Since “the home code being used to solve problems relating to the use of the non-independent medium” is an indication of intended use and does not provide any difference between the claimed invention and prior art in order to

patentably distinguish the claimed invention from the prior art capabilities, patentable weight is not given to the clause of the claim.

Regarding claim 29, Kim teaches wherein the device is at least one of a home appliance **(par. 42 teaches a home appliance).**

Regarding claim 30, Kim teaches wherein the network manager controls and monitors the home appliance **(par. 46 teaches a host node for controlling and monitoring a client node).**

Regarding claim 31, Kim teaches wherein the non-independent medium is comprises at least one of PLC (power line communication) **(par. 42 teaches PLC).**

5. Claims 27 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim and Binding in view of Yook et a. (US Publication No. 2004/0047298 A1), hereinafter referred as Yook.

Regarding claim 27, Kim and Binding teach an interface as the parent claim.

However Kim and Binding do not expressly disclose wherein the serial interface is a universal asynchronous receiver and transmitter (UART).

Yook teaches a device as the primary reference in par. 61, 62. Yook further teaches an interface as a universal asynchronous receiver and transmitter (UART) in par. 61, 62.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Kim and Binding to include a UART interface. One would be motivated as such in order to allow a home appliance to communicate over a typical home network (abstract).

Regarding claim 32, Kim and Binding teach a method as the parent claim.

However Kim and Binding do not expressly disclose wherein the serial interface is a universal asynchronous receiver and transmitter (UART).

Yook teaches a device as the primary reference in par. 61, 62. Yook further teaches an interface as a universal asynchronous receiver and transmitter (UART) in par. 61, 62.

See similar motivation as claim 27.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any response to this action should be **faxed** to (571) 173-8300 or **mailed** to:

Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand delivered responses should be brought to:
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL MITCHELL whose telephone number is (571)270-5307. The examiner can normally be reached on Monday - Friday 8:00 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chirag G. Shah can be reached on 571-272-3144. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/D. M./
Examiner, Art Unit 2477

/Chirag G Shah/
Supervisory Patent Examiner, Art Unit 2477